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Appl. No. 10/589,418  
Amendment Dated August 11, 2008  
Reply to Office Action of May 15, 2008

**Amendments to the Claims:**

This listing will replace all prior versions, and listings, of claims in the application:

**Listing of Claims:**

Claim 1 (Currently amended): A process for producing 2,2,3,3-tetrafluorooxethane, which comprises allowing tetrafluoroethylene to react with ~~at least one of paraformaldehyde and trioxane~~ in anhydrous hydrogen fluoride, said reaction being is carried out in the presence of polyfluoroalkylic acid or polyfluoroalkyl ester thereof, represented by the following general formula:



wherein  $R_f$  is a polyfluoroalkyl group having 1-5 carbon atoms, and  $R_f'$  is a hydrogen atom or a polyfluoroalkyl group having 1-5 carbon atoms.

Claim 2 (Original): A process for producing 2,2,3,3-tetrafluorooxethane according to Claim 1, wherein the carboxylic acid, represented by the general formula  $R_fCOOR_f'$ , is  $CF_3COOH$ .

Claim 3 (Original): A process for producing 2,2,3,3-tetrafluorooxethane according to Claim 1, where the carboxylic acid ester, represented by the general formula  $R_fCOOR_f'$ , is  $CF_3COOCH_2CF_2CF_3$ .

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Claim 4 (Original): A process for producing 2,2,3,3-tetrafluorooxethane according to Claim 1, where the carboxylic acid ester, represented by the general formula  $RfCOORf'$ , is  $CF_3COOCH_2CF_3$ .

Claim 5 (New): A process for producing 2,2,3,3-tetrafluorooxethane, which comprises allowing tetrafluoroethylene to react with trioxane in anhydrous hydrogen fluoride, said reaction being carried out in the presence of polyfluoroalkylic acid or polyfluoroalkyl ester thereof, represented by the following general formula:



wherein  $Rf$  is a polyfluoroalkyl group having 1-5 carbon atoms, and  $Rf'$  is a hydrogen atom or a polyfluoroalkyl group having 1-5 carbon atoms.

Claim 6 (New): A process for producing 2,2,3,3-tetrafluorooxethane according to Claim 1, wherein the carboxylic acid, represented by the general formula  $RfCOORf'$ , is  $CF_3COOH$ .

Claim 7 (New): A process for producing 2,2,3,3-tetrafluorooxethane according to Claim 1, where the carboxylic acid ester, represented by the general formula  $RfCOORf'$ , is  $CF_3COOCH_2CF_2CF_3$ .

Claim 8 (New): A process for producing 2,2,3,3-tetrafluorooxethane according to Claim 1, where the carboxylic acid ester, represented by the general formula  $RfCOORf'$ , is  $CF_3COOCH_2CF_3$ .